
User Manual

VANDALPROOF

IP CAMERA





WARNINGS

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

DO NOT INSERT ANY METALLIC OBJECT THROUGH VENTILATION GRILLS.

CAUTION

	<table border="1"><tr><td>CAUTION</td></tr><tr><td>DO NOT CHANGE THE LENS</td></tr></table>	CAUTION	DO NOT CHANGE THE LENS	
CAUTION				
DO NOT CHANGE THE LENS				
<p>CAUTION: THIS CAMERA DESIGN IS BASED ON THE INCLUDED LENS. LENS REPLACEMENT MAY CAUSE INSTABILITY OF IMAGE QUALITY. PLEASE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>				

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I. Preface

This IP Camera is a 720P Vandal proof IP camera. It has the web server built in. User can view real-time video via IE browser. IP Camera supports simultaneously H.264, Motion JPEG & MPEG4 video compression and dual streaming which provides smooth and high video quality. The video can be stored in the SD card, and playback remotely. With user friendly interface, it is an easy-to-use IP camera designed for security application.

II. Product Specifications

Main Features:

- HD 720P@30fps Real Time
- Digital Wide Dynamic Range
- Shutter Speed adjustable
- Sense Up adjustable
- Power over Ethernet
- H.264/ M-JPEG/ MPEG4 compression
- Micro SD card backup
- Vandal proof
- Support iPhone/Android/ Mac
- SDK for Software Integration
- Free Bundle 36 ch recording software

HLV-1KBM SPECIFICATION

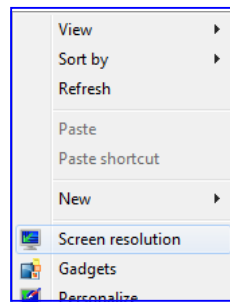
Hardware	
CPU	ARM 9 ,32 bit RISC
RAM	128MB
Flash	16MB
Image sensor	1 / 4" Mega-Pixel CMOS sensor
Sensitivity	1.0 Lux @30fps
Shutter Time	1 / 5 ~ 1 / 10,000 sec
Lens Type	4.2mm@F1.6
I/O	DI/DO
Power over Ethernet	Yes, 48V Power consumption, Max: 2.8W
Power	DC12V Power consumption, Max: 2.04W
Operating Temperature	-10°C ~ 45°C

Dimensions	Φ80mm x H67mm
Weight	340g
Network	
Ethernet	10/ 100 Base-T
Network Protocol	HTTP, HTTPS, SNMP, QoS/DSCP, Access list, IEEE 802.1X, RTSP, TCP/IP, UDP, SMTP, FTP, PPPoE, DHCP, DDNS, NTP, UPnP, 3GPP, SAMBA, Bonjour
System	
Video Resolution	1280x800@30fps,1280x720@30fps , 640x480@30fps, 320x240@30fps, 176x144@30fps
Video Adjust	Brightness, Contrast, Hue, Saturation, Sharpness, AGC, Shutter Speed adjustable, Sense-Up, D-WDR, Flip, Mirror, Noise reduction, DNR
Triple Streaming	Yes
Image Snapshot	Yes
Full Screen Monitoring	Yes
Privacy Mask	Yes, 3 different areas
Compression Format	H.264/ M-JPEG/ MPEG4
Video Bitrates Adjust	CBR, VBR
Motion Detection	Yes, 3 different areas
Triggered Action	Mail, FTP, Save to SD card, SAMBA
Security	Password protection, IP address filtering, HTTPS encrypted data transmission, 802.1X port-based authentication for network protection, QoS/DSCP
Firmware Upgrade	HTTP mode, can be upgraded remotely
Simultaneous Connection	Up to 10
Micro SD card management	
Recording Trigger	Motion Detection, IP check, Network break down (wire only),Schedule
Video Format	AVI, JPEG
Video Playback	Yes
Delete Files	Yes
Web browsing requirement	
OS	Windows 7, 2000, XP, 2003, Microsoft IE 6.0 or above, Chrome, Safari, Firefox
Mobile Support	iOS 4.3 or above, Android 1.6 or above.
Hardware Suggested	Intel Dual Core 2.53G,RAM: 1024MB, Graphic card: 128MB

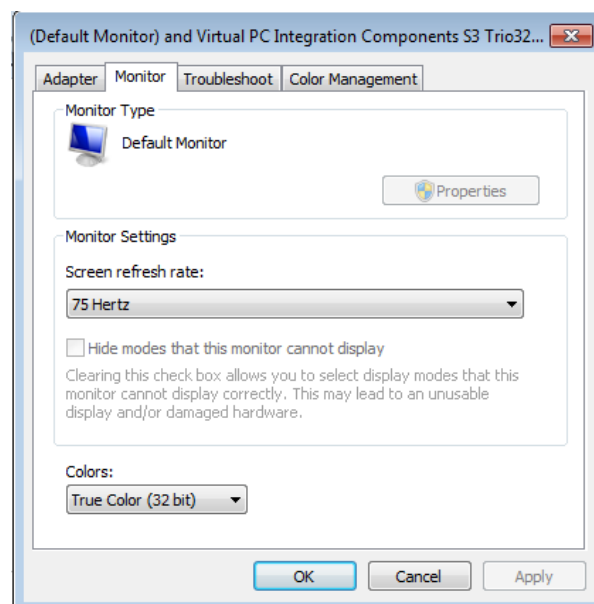
III. Product Installation

A. Monitor Setting

1. Right-Click on the desktop. Select “Properties”



2. Change color quality to highest (32bit).



B. Hardware Installation

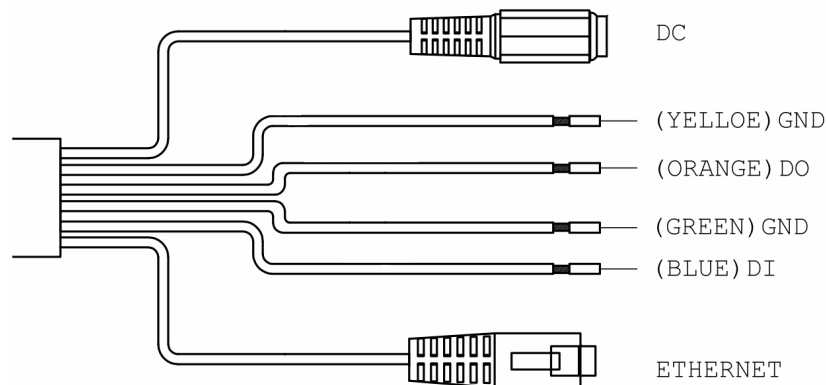
1. Connect power adaptor first.
2. Connect IP Camera to PC or network
3. Set up the network configurations according to the network environment. For further explanation, please refer to chapter VI: "Network Configuration for IP Camera".
4. IP Camera construction

Remove the dome cover and you can see the Micro SD card slot and the reset bottom.



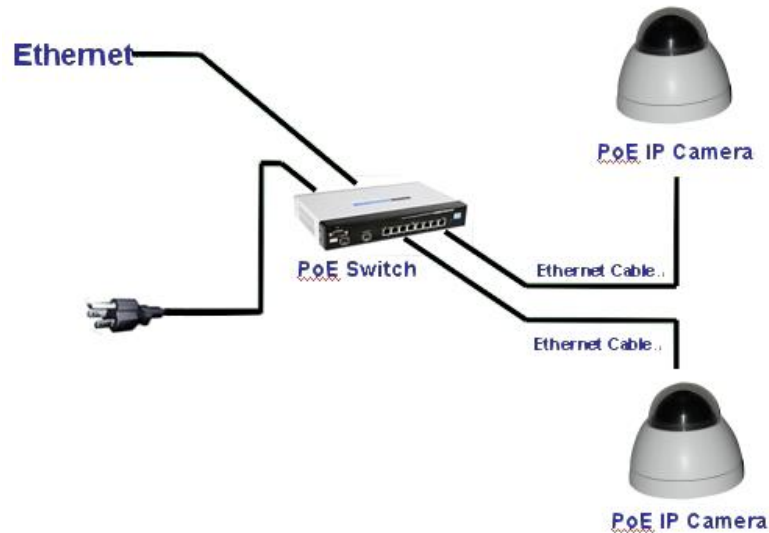
5. Connector Instruction

Use the cable as below to connect the power and the ethernet. The four-colored wires are used for I/O connection. About I/O setting, please refer to chapter VII in User Manual: "I/O Configuration" for detail.



6. PoE (Power Over Ethernet)(Optional) 802.3at, 30.0W PoE Switch is recommended

Power over Ethernet (PoE) is a technology that integrates power into a standard LAN infrastructure. It enables power to be provided to the network device, such as an IP phone or a network camera, using the same cable as that used for network connection. It eliminates the need for power outlets at the camera locations and enables easier application of uninterruptible power supplies (UPS) to ensure 24 hours a day, 7 days a week operation.

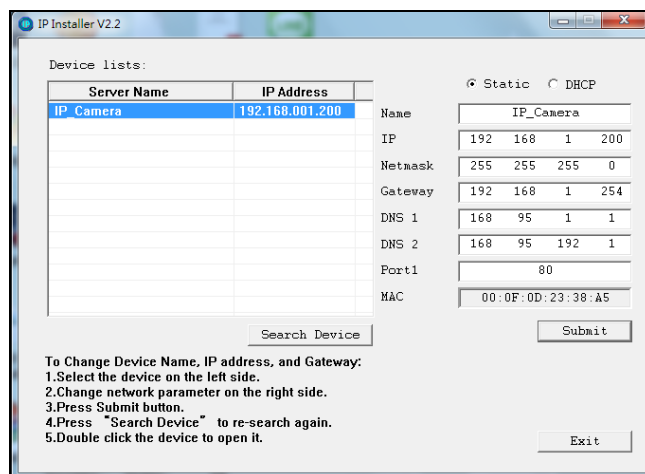


C. IP Assignment

1. You can use the software “IP Installer” to assign the IP address of IP Camera.
The software is in the attached CD.
2. There are two language versions of IP installer. Choose one as your need:
IPInstallerCht.exe: Chinese version
IPInstallerEng.exe: English version
3. There are 3 kinds of IP configuration.
 - a. Fixed IP (Public IP or Virtual IP)
 - b. DHCP (Dynamic IP)
 - c. Dial-up (PPPoE)
4. Execute IP Installer
5. For Windows XP SP2 user, the following message box may pop up. Please click “Unblock”.



6. IP Installer configuration:



7. IP Installer will search for all IP Cameras connected on Lan. Click “Search Device” to refresh the result list.
8. Click one of the IP Camera listed on the left side. The network configuration of this IP camera shows on the right side. You may change the “name” of the IP Camera as your preference (eg: Office, warehouse). Change the parameter and click “Submit” . It will apply the change and reboot the Device.



9. Please make sure that the IP address of your PC and IP Camera are on the same subnet.

The same Subnet:

IP CAM IP address: 192.168.1.200

PC IP address: 192.168.1.100

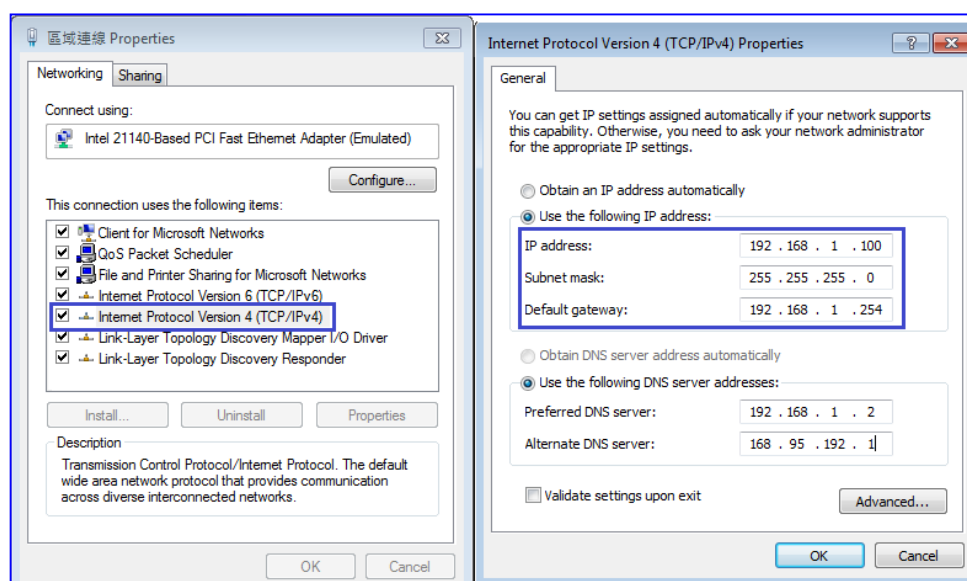
Different Subnets:

IP CAM IP address: 192.168.2.200

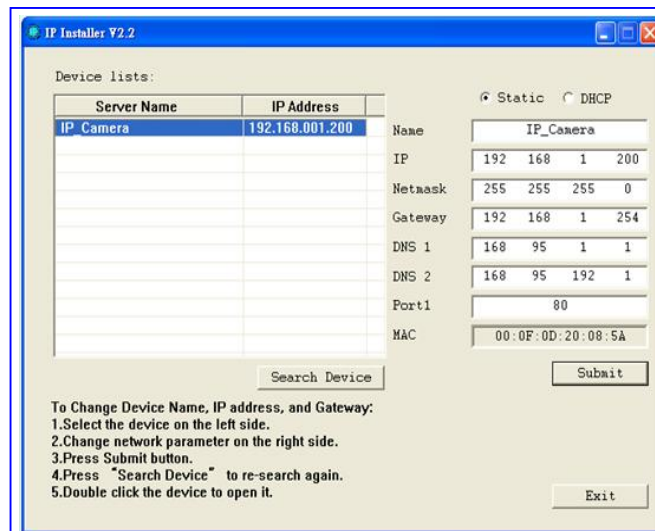
PC IP address: 192.168.1.100

To Change PC IP address:

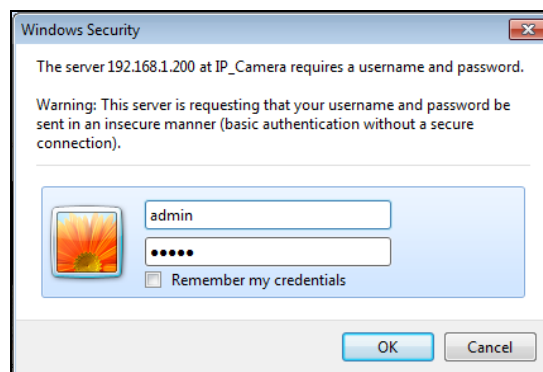
Control Panel→Network Connections→ Local Area Connection Properties→ Internet Protocol (TCP/IP) → Properties



10. A quick way to access remote monitoring is to double-click the selected IP Camera listed on “Device list” of IP Installer. An IE browser will be opened.



11. If you link to the IP Camera successfully, there pops a box asking you to log in. Please key in the default user name "admin" and password "admin" when you link to the IP Camera for the first time. You can revise the user name and password later.



D. Install ActiveX control

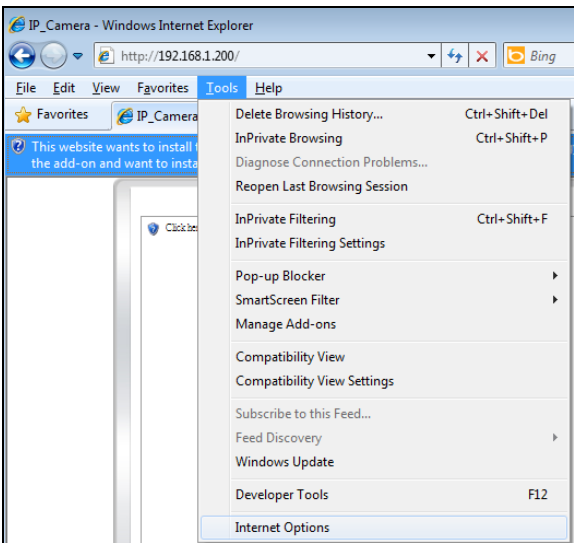
For the first time to view the camera video via IE, it will ask you to install the ActiveX component.

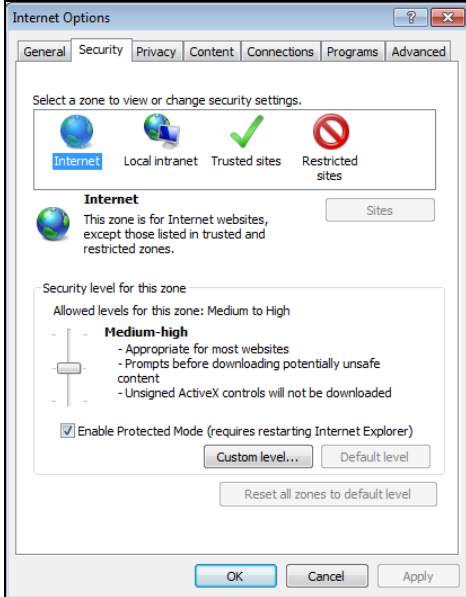
If the installation failed, please check the security setting for the IE browser.

1. IE → Tools → Internet Options... → Security Tab → Custom Level... → Security Settings → Download unsigned ActiveX controls → Select "Enable" or Prompt.
2. IE → Tools → Internet Options... → Security Tab → Custom Level... → Initialize and script ActiveX controls not marked as safe → Select "Enable" or Prompt.

1

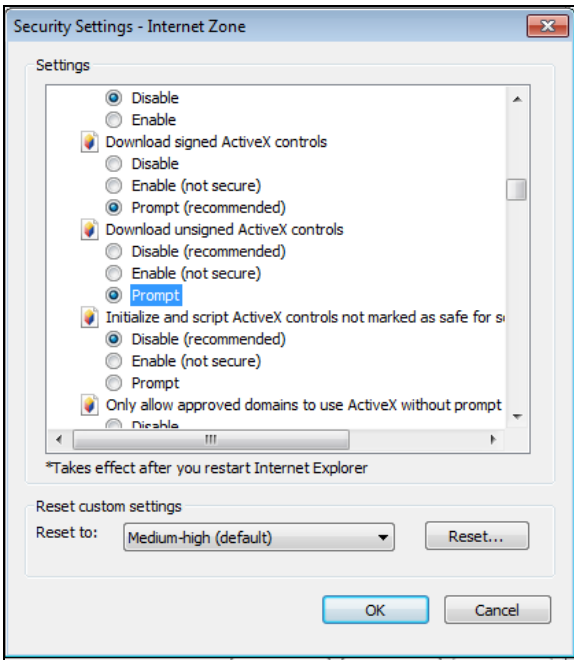
2

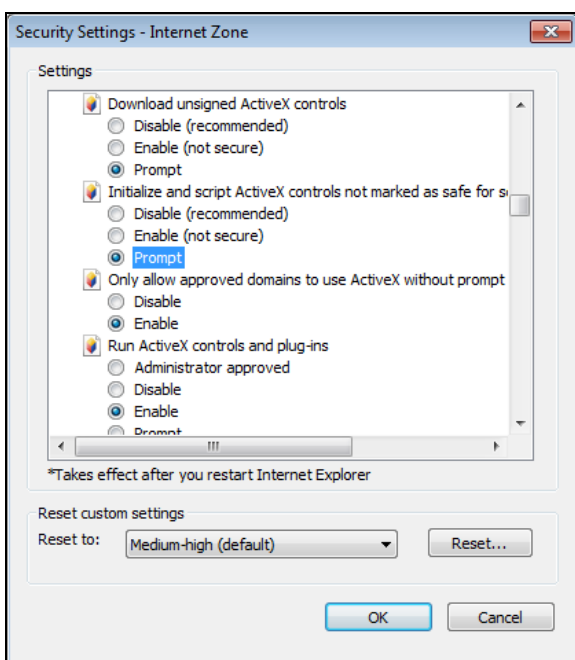




3

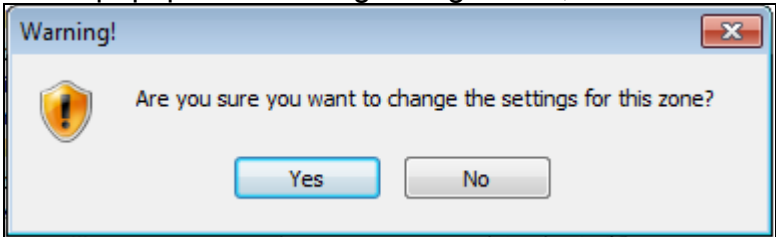
4





5

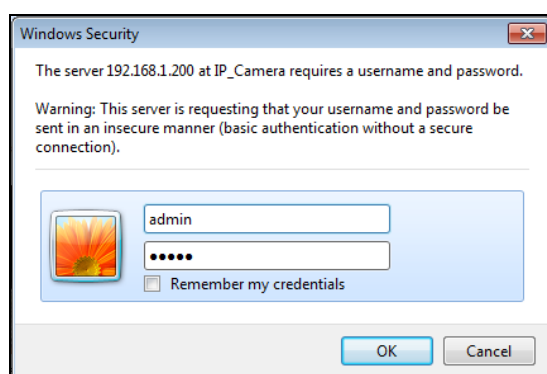
When popup the following dialogue box, click “Yes”.



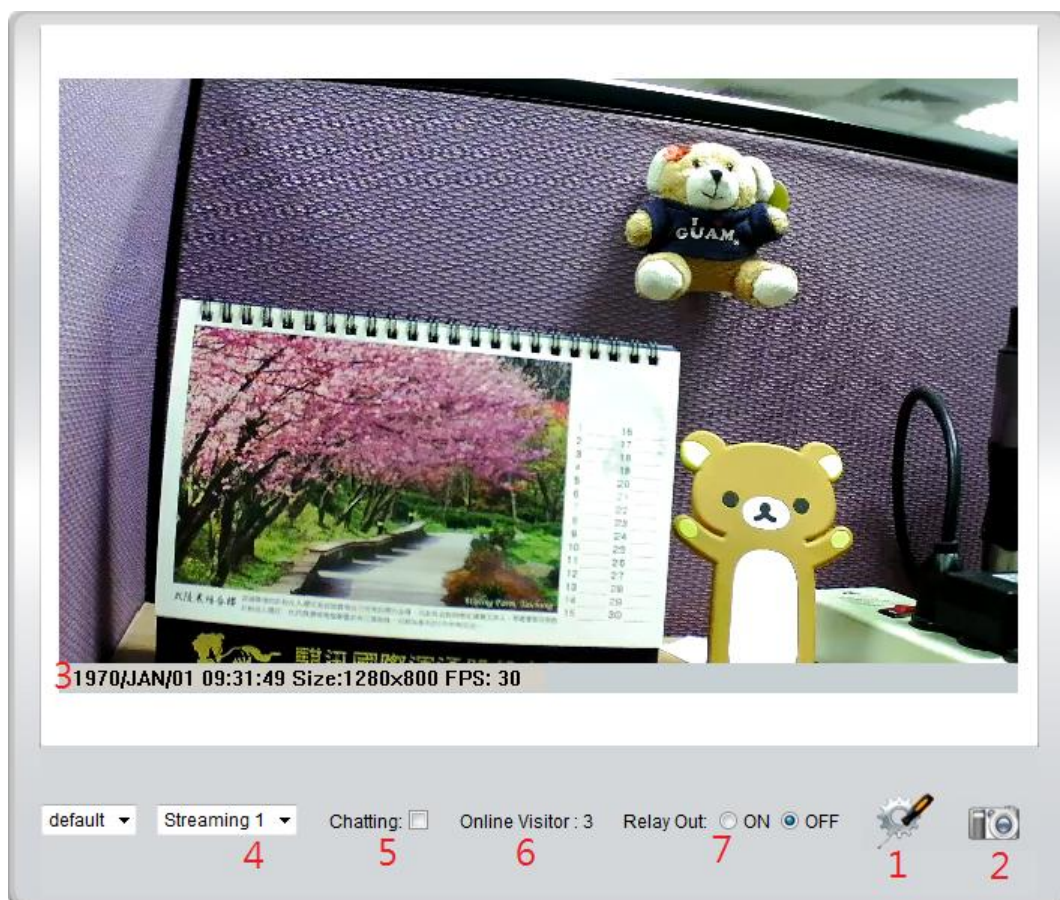
IV.



IV. Live Video

Start an IE browser, type the IP address of the IP camera in the address field. It will show the following dialogue box. Key-in the user name and password. The default user name and password are “admin” and “admin”.



When the IP Camera is connected successfully, it shows the following program interface.



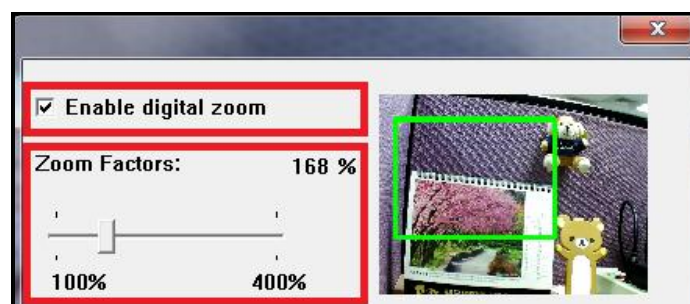
-
1.  : Get into the administration page
 2.  : Video Snapshot
 3. Show system time, video resolution, and video refreshing rate
 4. Adjust image, 1/2x, 1x, 2x
 5. Select video streaming source (If in "Video Setting" the streaming 2 setting is closed, this option will not appear here.)
 6. Show how many people connect to this IP camera.
 7. Tick the Relay out "ON" box to enable the relay output.

Double-click the video to switch to full screen view. Press "Esc" or double-click the video again back to normal mode.

Right-Click the mouse on the video, it will show a pop-up menu.




1. Snapshot: Save a JPEG picture
2. Record Start: Record the video in the local PC. It will ask you where to save the video. To stop recording, right-click the mouse again. Select "Record Stop". The video format is AVI. Use Microsoft Media Player to play the recorded file.
3. Mute: Turn of the audio. Click again to turn on it.
4. Full Screen: Full-screen mode.
5. ZOOM: Enable zoom-in and zoom-out functions. Select "Enable digital zoom" option first within the pop-up dialogue box and then drag and drop the bar to adjust the zoom factors.




V. IP Camera Configuration



Click  to get into the administration page as below.



Click  to back to the live video page.

System Network A/V Setting Event

System Information

Server Information

MAC Address: 00:0F:0D:23:38:A

Server Name: IP_Camera ☐ Status Bar

Language : ☒ English ☐ 繁體中文 ☐ 简体中文 ☐ French
☐ Russian ☐ Italian ☐ Spanish ☐ German
☐ Portuguese ☐ Polish ☐ Japanese

OSD Setting

Time Stamp: ☐ Enabled ☒ Disabled

Text: ☐ Enabled ☒ Disabled

[OSD_Display](#) [Text Edit](#)

Time Setting

Server Time: 1970/1/1 8:18:53 Time Zone: GMT+08:00

Date Format: ☒ yy/mm/dd ☐ mm/dd/yy ☐ dd/mm/yy

Time Zone: GMT+08:00

☐ Enable Daylight Saving:

☐ NTP :

NTP Server: 198.123.30.132

Update: 6 Hour

Time Shift: 0 Minutes [-1440..1440]

☐ Synchronize with PC's time

Date: 2012/4/6

Time: 13:39:27

☐ Manual

Date: 2012/4/6

Time: 13:39:16

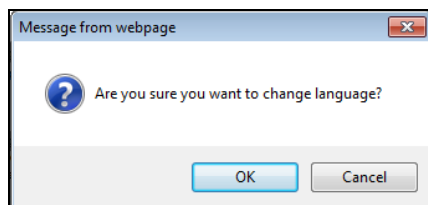
☒ The date and time remain the same

[Apply](#)

A. System

1. System Information

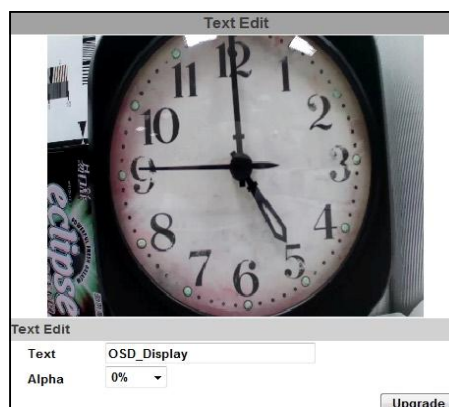
- a. Server Information: Set up the camera name, select language, and set up the camera time.
 - (i) Server Name: This is the Camera name. This name will show on the IP Installer.
 - (ii) LED Indicator: The LED in the front of camera flickers when processing data. Turn off the function if you prefer no LED light.
 - (iii) Select language: There are 11 languages to choose from. When you change the language, it will show the following dialogue box for confirmation.



- b. OSD Setting: Select a position where date & time stamp / text showing on screen.



Moreover, click Text Edit can entry to adjust the OSD contents which is Alpha of text. Finally, click Upgrade button to reserve the setting.



- c. Server time setting: Select options to set up time - "NTP", "Synchronize with PC's time", "Manual", "The date and time remain the same".

Time Setting

Server Time: 2011/11/28 18:48:45 Time Zone: GMT+08:00
Date Format: ☒ yy/mm/dd ☐ mm/dd/yy ☐ dd/mm/yy
Time Zone:
☒ Enable Daylight Saving:

DST Start: Month Week Day of Week Time
DST End: Month Week Day of Week Time

☐ NTP :
NTP Server :
Update : Hour
Time Shift : Minutes [-1440..1440]
☐ Synchronize with PC's time
Date :
Time :
☐ Manual
Date :
Time :
☒ The date and time remain the same

2. User Management

IP CAMERA supports three different users, administrator, general user, and anonymous user.

User Management

Anonymous User Login
☐ YES ☒ NO

Add User
Username:
Password:
Confirm:

User List

Username	User Group	Modify	Remove
admin	Administrator	Edit	

a. Anonymous User Login:

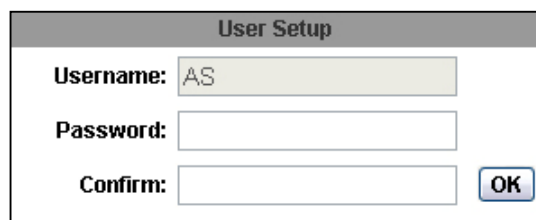
Yes: anonymous login is allowed

No: Username & password are required to access this IP camera

b. Add user:

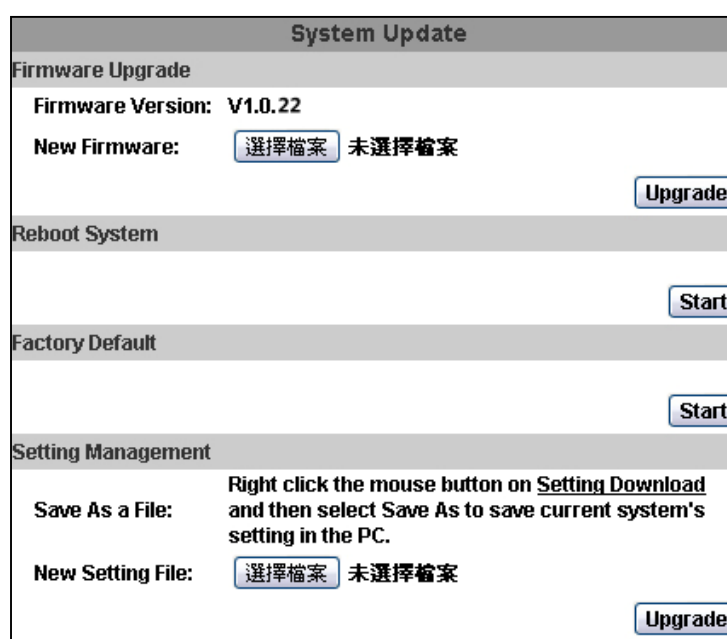
Type the user name and password, then click "Add/Set".

-
- c. Click “edit” or “delete” in the user list to modify them. The system will ask you to key in the password in the pop-up window before you edit the user information.



The 'User Setup' dialog box contains three input fields: 'Username' with the text 'AS', 'Password', and 'Confirm'. An 'OK' button is located to the right of the 'Confirm' field.

3. System update:



The 'System Update' interface is divided into four sections: 'Firmware Upgrade' showing 'Firmware Version: V1.0.22' and a 'New Firmware' field with '選擇檔案' (Select File) and '未選擇檔案' (No file selected) buttons, followed by an 'Upgrade' button; 'Reboot System' with a 'Start' button; 'Factory Default' with a 'Start' button; and 'Setting Management' which includes a 'Save As a File' section with instructions to right-click 'Setting Download' and choose 'Save As', a 'New Setting File' field with '選擇檔案' and '未選擇檔案' buttons, and an 'Upgrade' button.

- To update the firmware online, click “Browse...” to select the firmware. Then click “Upgrade” to proceed.
- Reboot system: re-start the IP camera
- Factory default: delete all the settings in this IP camera.
- Setting Management: User may download the current setting to PC, or upgrade from previous saved setting.
 - Setting download:

Right-click the mouse button on Setting Download → Select “Save AS...” to save current IP CAM setting in PC → Select saving directory → Save
 - Upgrade from previous setting:

Browse → search previous setting → open → upgrade → Setting update confirm → click [index.html](#) to return to main page

B. Network

1. IP Setting

IP Camera supports DHCP and static IP.

IP Setting	
IP Assignment	
<input type="radio"/> DHCP	
<input checked="" type="radio"/> Static	
IP Address:	<input type="text" value="192.168.40.150"/>
Subnet Mask:	<input type="text" value="255.255.255.0"/>
Gateway:	<input type="text" value="0.0.0.0"/>
DNS 0:	<input type="text" value="168.95.1.1"/>
DNS 1:	<input type="text" value="168.95.192.1"/>
IPv6 Assignment	
<input checked="" type="checkbox"/> IPv6 Enabled:	
<input type="checkbox"/> Manually setup the IPv6 address:	
DHCPv6:	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled
IPv6 Address: fe80::20f:dff:fe00:284d	
Port Assignment	
Web Page Port:	<input type="text" value="80"/>
HTTPS Port:	<input type="text" value="443"/> HTTPS Setting
UPnP	
UPnP:	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
UPnP Port Forwarding:	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled
External Web Port:	<input type="text" value="80"/>
External HTTPS Port:	<input type="text" value="443"/>
External RTSP Port:	<input type="text" value="554"/>

a. IP Assignment

- (i) DHCP: Using DHCP, IP CAMERA will get all the network parameters automatically.
- (ii) Static IP: Please type in IP address, subnet mask, gateway, and DNS manually.

- b. IPv6 Assignment: IPv6 is a newer numbering system that provides a much larger address pool than IPv4, which accounts for most of today's Internet traffic. You can set up IPv6 manually by key in Address, Gateway, and DNS, or enable DHCP to assign the IP automatically.

IPv6 Assignment

☒ IPv6 Enabled:

☒ Manually setup the IPv6 address:

IPv6 Address/Prefix:

::

IPv6 Gateway:

::

IPv6 DNS:

::

DHCPv6:

☐ Enabled
 ☒ Disabled

IPv6 Address:

fe80::20f:dff:fe00:284d

c. Port assignment:

- (i) Web Page Port: setup web page connecting port and video transmitting port (Default: 80)
- (ii) HTTP Port: setup HTTPS connecting port (Default:443)

d. UPnP (Universal Plug and play):

This IP camera supports UPnP, If this service is enabled on your computer, the camera will automatically be detected and a new icon will be added to "My Network Places."

(i) UPnP Port Forwarding:

Enable UPnP Port Forwarding can access the Network Camera from the Internet, select this option to allow the Network Camera to open ports on the router automatically so that video streams can be sent out from a LAN. There are three External port can be set, Web Port, Http Port and RTSP port. To utilize of this feature, make sure that your router supports UPnP and it is activated.

(ii) Note: UPnP must be enabled on your computer. Please follow the procedure to activate UPnP.

- open the Control Panel from the Start Menu
- Select Add/Remove Programs
- Select Add/Remove Windows Components and open Networking Services section
- Click Details and select UPnP to setup the service
- The IP device icon will be added to "MY Network Places"
- User may double click the IP device icon to access IE browser

RTSP Setting	
RTSP Server:	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
RTSP Authentication:	Disable
RTSP Port :	554
RTP Start Port:	5000 [1024..9997]
RTP End port:	9000 [1027..10000]
Multicast Setting (Based on the RTSP Server)	
Streaming 1:	
IP Address:	234.5.6.78 [224.3.1.0 ~ 239.255.255.255]
Port:	6000 [1 ~ 65535]
TTL:	15 [1 ~ 255]
Streaming 2:	
IP Address:	234.5.6.79 [224.3.1.0 ~ 239.255.255.255]
Port:	6001 [1 ~ 65535]
TTL:	15 [1 ~ 255]
ONVIF	
ONVIF:	<input checked="" type="radio"/> v1.02 <input type="radio"/> v1.01 <input type="radio"/> Disabled
Security:	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled
RTSP Keepalive:	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
Apply	

e. RTSP setting

- (i) RTSP Server: enable or disable
- (ii) RTSP Port: setup port for RTSP transmitting (Default: 554)
- (iii) RTSP Start and End Port: in RTSP mode, you may use TCP and UDP for connecting. TCP connection uses RTSP Port (554). UDP connection uses RTSP Start and End Port.

f. Multicast Setting (Based on the RTSP Server)

Multicast is a bandwidth conservation technology. This function allows several user to share the same packet sent from IP camera. To use Multicast, appoint IP Address and port here. TTL means the life time of packet, the larger the value is, the more user can receive the packet.

To use Multicast, be sure to enable the function "Receive Multicast" in your media player.

g. ONVIF

Choose your ONVIF version and settings.

Bonjour	
Bonjour:	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled
Bonjour Name:	IP_Camera @00:0F:0D:00:28:4D
LLTD (Link Layer Topology Discovery)	
LLTD:	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled

h. Bonjour

This function enables MAC systems to link to this IP camera. Key in the name here.

i. LLTD

If your PC supports LLTD, enable this function then you can check the connection status, properties, and device position (like IP address) of this IP Camera in the network map.

2. Advanced

- a. Https (Hypertext Transfer Protocol Secure): Https can help protect streaming data transmission over the internal on the higher security level.

Https Setting

Created Request

Subject: C=TW, ST=, L=, O=, OU=, CN=

Date: 2011/Sep/22 08:26:18

Content Remove

Installed Certificate

Subject: C=TW, ST=, L=, O=, OU=, CN=

Date: Apr 23 09:05:24 2011 GMT

Content Remove

Connection Types

Http&Https

Https setting: Before setting new request, please remove old secure identification at Http connection type.

Https Setting

Created Request

Subject: C=TW, ST=, L=, O=, OU=, CN=

Date: 2011/Sep/23 10:04:17

Content Remove

Installed Certificate

Subject: C=TW, ST=, L=, O=, OU=, CN=

Date: Apr 23 09:05:24 2011 GMT

Content Remove

Connection Types

Http

- (i) Created Request: remove secure identification in Created request mode. There is a warning message showing. Please set “Yes” to remove secure identification.
- (ii) Setting the secure identification and apply it.

Https Setting

Create Request

Country:

State or province:

Locality:

Organization:

Organizational Unit:

Common Name:

Apply

- (iii) Installed Certificate: remove Certificate in .Installed Certificate mode.
There will be a warning message to check again.
- (iv) There are two ways to set Certificate- Install Signed Certificate and Create Self-Signed Certificate.

The image shows two overlapping dialog boxes. The top dialog is titled 'Install Signed Certificate' and has a 'Signed Certificate:' text box with a '浏览...' (Browse...) button next to it, and an 'Apply' button at the bottom right. The bottom dialog is titled 'Create Self-Signed Certificate' and contains several text boxes for 'Country:', 'State or province:', 'Locality:', 'Organization:', 'Organizational Unit:', and 'Common Name:'. It also has a 'Validity:' text box followed by a 'Days' text box. An 'Apply' button is located at the bottom right of this dialog.

b. SNMP(Simple Network Management Protocol)

The image shows the 'SNMP Setting' configuration window. It has a title bar 'SNMP Setting' and a subtitle 'SNMP Setting'. There are three main sections:

- SNMPv1 / SNMPv2c:** Includes checkboxes for 'SNMPv1' and 'SNMPv2c'. Below them are text boxes for 'Write Community:' (value: write) and 'Read Community:' (value: public).
- SNMPv3:** Includes a checkbox for 'SNMPv3'. Below it are text boxes for 'Write Security Name:' (value: write) and 'Read Security Name:' (value: public). For both Write and Read modes, there are radio buttons for 'Authentication Type:' (MD5 selected, SHA unselected) and 'Encryption Type:' (DES selected, AES unselected). Each mode also has an 'Authentication Password:' and an 'Encryption Password:' text box.
- SNMPv1/v2c Trap:** Includes a checkbox for 'SNMPv1/v2c Trap'. Below it are text boxes for 'Trap Address:' and 'Trap Community:' (value: public). At the bottom, there are checkboxes for 'Trap Event:' including 'Cold Start', 'Setting Changed', 'Network Disconnected', 'V3 Authentication Failed', and 'SD Insert/Remove'.

 An 'Apply' button is located at the bottom right of the window.

- (i) Enable SNMPv1 or SNMPv2 and write the name of Write Community and Read Community.
- (ii) Enable SNMPv3, please set Security Name, Authentication Type, Authentication Password, Encryption Type, Encryption Password of Write mode and Read mode.

-
- (iii) Enable SNMPv1/SNMPv2 Trap can detect the Trap server.
Please set what event need to detect.

- c. Access List: "Enable IP address filter" can set IP address which can allow or deny to this camera. There are two options, single and range, for user to set the IP address.

IP FILTER

IP ADDRESS FILTER Setting

☒ Enable ip address filter

IPv4 Setting:

add ☒ allow ☐ deny

single

single

range

IPv4 List:

No.	IP Address	Filter	Action
1			remove
2			remove
3			remove
4			remove
5			remove
6			remove
7			remove
8			remove
9			remove
10			remove

☐ Allow admin ip address always access this device

Admin ip address:

apply

- d. QoS/DSCP(Quality of Server/Differentiated Services Code-point):
DSCP specifies a simple mechanism for classifying and managing network traffic and provide QoS on IP networks. DSCP is a 6-bit in the IP header for packet classification purpose. Please define the reserve for Live Stream, Event / Alarm and Management.

QoS/DSCP

QoS/DSCP Setting

☒ Enable QoS/DSCP

Live Stream: (0~63)

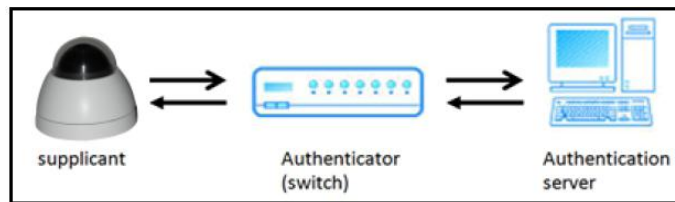
Event / Alarm: (0~63)

Management: (0~63)

Apply

- e. IEEE 802.1x: IEEE 802.1x is an IEEE standard for port-based Network Access Control. It provides an authentication mechanism to device wishing to attach to a LAN or WLAN.

The EAPOL protocol support service identification and optional point to point encryption over the local LAN segment.



Please check what version of the authenticator and authentication server support. This camera supports EAP-TLS method. Please enter ID, password issued by the CA, then upload related certificates.

The screenshot shows the 'IEEE 802.1x/EAP-TLS' configuration page. The page has a title bar 'IEEE 802.1x/EAP-TLS' and a sub-header 'IEEE 802.1x Setting'. Below the header, there is a checkbox 'Enable IEEE 802.1x'. Under 'Eapol version:', there are radio buttons for 'v1' (selected) and 'v2'. There are input fields for 'Identity:' and 'Private key password:', followed by an 'Apply' button. Below these, there are sections for 'CA certificate:', 'Status:', 'Client certificate:', 'Status:', and 'Client private key:'. Each of these sections has an 'Upload' button, a '浏览...' (Browse...) button, and a 'Remove' button. At the bottom, there is a 'Status:' label and an input field.

3. PPPoE & DDNS

- a. PPPoE: Select "Enabled" to use PPPoE. Key-in Username and password for the ADSL connection. Send mail after dialed: When connect to the internet, it will send a mail to a specific mail account. For the mail setting, please refer to "Mail and FTP" settings.

The screenshot shows the 'PPPoE' configuration page. The page has a title bar 'PPPoE' and a sub-header 'PPPoE Setting'. Below the header, there are radio buttons for 'Enabled' and 'Disabled' (selected). There are input fields for 'Username:' and 'Password:'. Below these, there is a section 'Send mail after dialed' with a checkbox 'Enabled' (unchecked). There is an input field for 'Subject:' with the text 'PPPoE From IPcam' and an 'Apply' button.

b. DDNS:

It supports DDNS (Dynamic DNS) service.

- (i) Enable this service
- (ii) Key-in the DynDNS server name, user name, and password.
- (iii) Set up the IP Schedule update refreshing rate.
- (iv) Click “Apply”
- (v) If setting up IP schedule update too frequently, the IP may be blocked.
In general, schedule update every day (1440 minutes) is recommended
- (vi) DDNS Status

- Updating: Information update
- Idle: Stop service
- DDNS registration successful, can now log by <http://<username>.ddns.camddns.com>: Register successfully.
- Update Failed, the name is already registered: The user name has already been used. Please change it.
- Update Failed, please check your internet connection: Network connection failed.
- Update Failed, please check the account information you provide: The server, user name, and password may be wrong.

4. Server setting

There are three choices of server types available: Email, FTP and SAMBA. Select the item to display the detailed configuration options. You can configure either one or all of them.

-
- a. Mail Setting: To send out the video via mail of ftp, please set up the configuration first.

The screenshot shows the 'Server Settings' window with the 'Mail Setting' tab selected. The 'Login Method' is set to 'Account'. The 'Mail Server', 'Username', 'Password', 'Sender's Mail', 'Receiver's Mail', and 'Bcc Mail' fields are empty. The 'Mail Port' is set to '25' with a note '(Default 25)'. The 'Secure Connect' section has three radio buttons: 'Secure Connect' (unchecked), 'TLS' (checked), and 'SSL' (unchecked). There is a 'Test' button at the bottom right of the 'Mail Setting' section. Below this, the 'FTP Setting' and 'Samba (Network storage)' tabs are visible, with an 'Apply' button at the bottom right of the entire window.

- b. FTP: To send out the video via mail of ftp, please set up the configuration first.

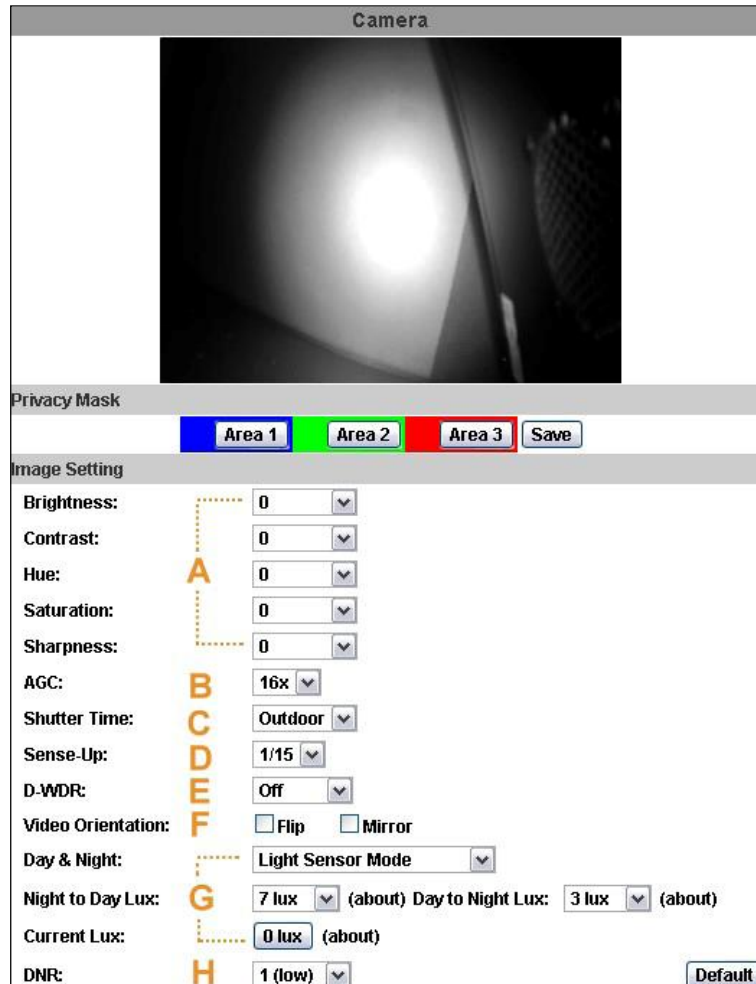
The screenshot shows the 'FTP Setting' window. The 'FTP Server', 'Username', and 'Password' fields are empty. The 'Port' is set to '21'. The 'Path' is set to '/'. The 'Mode' is set to 'PORT'. The 'Create the folder' option is set to 'Yes' with a note '(ex:Path/20100115/121032m.avi)'. There is a 'Test' button at the bottom right.

- c. Samba: Select this option to send the media files via a network neighborhood when an event is triggered

The screenshot shows the 'Samba (Network storage)' window. The 'Location' field is empty with a note '(ex:\\Nas_ip\folder)'. The 'Workgroup', 'Username', and 'Password' fields are empty. The 'Create the folder' option is set to 'Yes' with a note '(ex:Path/20100115/121032m.avi)'. There is a 'Test' button at the bottom right.

C. A/V Setting

1. Image Setting



For the security purpose, there are three areas can be setup for privacy mask. Click Area button first and pull an area on the above image. Finally, click Save button to reserve the setting.

Please refer to the details below for Image setting:

- Brightness, Contrast, Hue, Saturation, Sharpness can be adjusted here.
- AGC: The sensitivity of camera can adjusts with the environmental light in order to avoid the images too light or too dark.
- Shutter Time: You can use "Outdoor" or "Indoor" option, or fix it from 1/30 to 1/1000.
- Sense-Up: increase the sensitivity of camera to get brighter image at night.
- WDR: Enable the function to reduce the contrast of background with foreground (ex. people).
- Video Orientation: Flip, mirror, or rotate the image as your requirement.
- Day & Night: The camera can detect the light level of environment. If you

choose "Light Sensor Mode", the image will be turned to black and white at night in order to keep clear. To set light sensor mode, appoint a lux standard of switching D/N here. Current lux value is provided for reference. Under "Times Mode" according to given time. You can also control it by choosing "Color" or "B/W".

h. DNR: Adjust this option to reduce the noise.

2. Video Setting

User may select 2 streaming output simultaneously:

Streaming 1 Setting: Basic mode and Advanced mode

Streaming 2 Setting: Basic mode, Advanced mode, and 3GPP mode

a. Basic Mode of Streaming 1 and Streaming 2:

The screenshot displays the 'Video Setting' window. At the top, 'Video System' is set to 'NTSC'. Below this, the 'Streaming 1 Setting' section is active, showing 'Basic Mode' selected. Its settings are: Resolution: 1280x800, Quality: High, Video Frame Rate: 30 FPS, Video Format: H.264, and RTSP Path: ex:rtsp://IP_Address/ Audio:G.711. The 'Streaming 2 Setting' section is also active, showing 'Basic Mode' selected. Its settings are: Resolution: 640x480, Quality: Standard, Video Frame Rate: 30 FPS, Video Format: JPEG, and RTSP Path: v2 ex:rtsp://IP_Address/v2 Audio:G.711.

(i) Resolution:

There are 5 resolutions can be chosen:

1280x800, 1280x720, 640x480, 320x240, 176x144

(ii) Quality:

There are 5 levels to choose:

Best/ High/ Standard/ Medium/ Low

The higher the quality is, the bigger the file size is. It might affect Internet transmitting speed if the file gets too large.

(iii) Video Frame Rate: The video refreshing rate per second. The max value will be affected by the resolution you choose.

(iv) Video Format: H.264, MPEG4, or M-JPEG

(v) RTSP Path: Set the RTSP output connecting route

b. Advanced Mode of Streaming 1 and Streaming 2:

The image shows two windows for configuring streaming settings. The top window is titled 'Streaming 1 Setting' and has two radio buttons: 'Basic Mode' and 'Advanced Mode', with 'Advanced Mode' selected. It contains several settings: Resolution (1280x800), Bitrate Control Mode (CBR and VBR, with CBR selected), Video Quantitative (7), Video Bitrate (2Mbps), Video Frame Rate (30 FPS), GOP Size (1 X FPS, with a note 'GOP = 30'), Video Format (H.264), and RTSP Path (a text box with a placeholder 'ex:rtsp://IP_Adress/' and 'Audio:G.711'). The bottom window is titled 'Streaming 2 Setting' and has three radio buttons: 'Basic Mode', 'Advanced Mode', and 'Close', with 'Advanced Mode' selected. It contains: Resolution (640x480), Quality (Standard), Video Frame Rate (30 FPS), Video Format (JPEG), and RTSP Path (a text box with 'v2' and a placeholder 'ex:rtsp://IP_Adress/v2' and 'Audio:G.711').

Streaming 1 Setting

☐ Basic Mode ☒ Advanced Mode

Resolution: 1280x800

Bitrate Control Mode: ☒ CBR ☐ VBR

Video Quantitative: 7

Video Bitrate: 2Mbps

Video Frame Rate: 30 FPS

GOP Size: 1 X FPS GOP = 30

Video Format: H.264

RTSP Path: ex:rtsp://IP_Adress/ Audio:G.711

Streaming 2 Setting

☐ Basic Mode ☒ Advanced Mode ☐ Close

Resolution: 640x480

Quality: Standard

Video Frame Rate: 30 FPS

Video Format: JPEG

RTSP Path: v2 ex:rtsp://IP_Adress/v2 Audio:G.711

(i) Resolution

There are 5 resolutions can be chosen:

1280x800, 1280x720, 640x480, 320x240, 176x144

(ii) Bitrate Control Mode

There are CBR (Constant Bit Rate) and VBR (Variable Bit Rate) to be chose.

(iii) Video Quantitative

The quality adjustment of VBR. You can choose 1~10 compression rate

(iv) Video Bitrate

The quality adjustment of CBR. You can choose 32kbps~8Mbps. The higher the value is, the higher the image quality is.

(v) Video Frame Rate

The video refreshing rate per second. The max value will be affected by the resolution you choose.

(vi) GOP Size

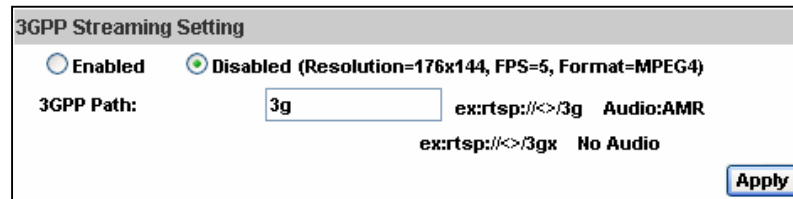
It means "Group of Pictures". The higher the GOP is, the better the quality is.

(vii) Video Format: H.264, MPEG4, or M-JPEG

(viii) RTSP Path: RTSP output connecting route

If you select both the highest resolution and 30FPS in the Streaming 1 Setting, the Streaming 2 will force to be closed.

c. 3GPP Streaming mode:



The screenshot shows a dialog box titled "3GPP Streaming Setting". It contains two radio buttons: "Enabled" and "Disabled (Resolution=176x144, FPS=5, Format=MPEG4)". The "Disabled" option is selected. Below the radio buttons, there is a label "3GPP Path:" followed by a text input field containing "3g". To the right of the input field, there are two example paths: "ex:rtsp://</3g Audio:AMR" and "ex:rtsp://</3gx No Audio". An "Apply" button is located at the bottom right of the dialog box.

3GPP mode fixed setting: 176x144 resolution, 5FPS, MPEG4 format

- (i) Enable or Disable 3GPP Streaming
- (ii) 3GPP Path: 3GPP output connecting route


D. Event List

IP Camera provides multiple event settings.

1. Event Setting

Event Setting

Motion Detection



Area Setting:

Area 1

Area 2

Area 3

Sensitivity:

5

5

5

☐ Area 1:

☐ E-mail ☐ FTP ☐ Out1 ☐ Save to SD card ☐ Samba

☐ Area 2:

☐ E-mail ☐ FTP ☐ Out1 ☐ Save to SD card ☐ Samba

☐ Area 3:

☐ E-mail ☐ FTP ☐ Out1 ☐ Save to SD card ☐ Samba

Subject:

IP Camera Warning!

Interval:

10 sec

a period of time between every two motions detected.

☐ Based on the schedule

Record File

File Format:

AVI File(with Record Time Setting)

Record Time Setting

Pre Alarm:

5 sec

Post Alarm:

5 sec

Network Dis-connected

Dis-connected:

☐ Save to SD card

Network IP Check

IP Check:

☐ Enabled ☒ Disabled

IP Address:

www.google.com

Interval:

30 sec

IP Check:

☐ Save to SD card

a. Motion Detection

IP CAMERA allows 3 areas motion detection. When motion is detected, it can send video to some specific mail addresses, trigger the output device, or save video to remote FTP / Micro SD card / Samba. To set up the motion area, click "Area Setting". Using mouse to drag and draw the area.

b. Record File

Choose one of the format, AVI or JPEG

c. Record Time Setting

Set up the video recording time for Pre Alarm and Post Alarm when motion is detected, I/O, or other devices is triggered

d. Network Dis-connected

When the network is down, it will save the video to local SD card.

This function is only enabled under wire connection.

e. Network IP check:

Whenever the connection is down, it records the video to SD card. Make sure the video recording is continuous. To use this function, key in the IP address of the PC which has recording software installed. Enable the function of "Save to SD card", then click "Apply".

2. Schedule

The screenshot shows a configuration window titled "Schedule". It features a grid for scheduling recordings by day of the week (Mon. to Sun.) and hour of the day (0 to 23). Below the grid, there is a green indicator and the text "With schedule setup." followed by a "Snapshot" section. The "Snapshot" section includes radio buttons for "Enabled" and "Disabled" (with "Disabled" selected), checkboxes for "E-mail", "FTP", "Out1", "Save to SD card", and "Samba", an "Interval" field set to "10" with the unit "Second(s) [1..50000]", and a "File Name" field containing "Snapshot". An "Apply" button is located at the bottom right.

	All	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon.																									
Tue.																									
Wed.																									
Thu.																									
Fri.																									
Sat.																									
Sun.																									

With schedule setup.

Snapshot

☐ Enabled ☒ Disabled

Snapshot: ☐ E-mail ☐ FTP ☐ Out1 ☐ Save to SD card ☐ Samba

Interval: Second(s) [1..50000]

File Name:

Apply

a. Schedule: After complete the schedule setup, the camera data will be recorded according to the schedule setup.

b. Snapshot: After enable the snapshot function, user can select the storage position of snapshot file, the interval time of snapshot and the reserved file name of snapshot.

c. Interval: The interval between two snapshots.

3. I/O Setting

I/O Setting

Input Setting

Input 1 Sensor: N.O

Input 1 Action: ☐ E-mail ☐ FTP ☐ Out1 ☐ Save to SD card ☐ Samba

Subject: GPIO In Detected!

Interval: 10 sec

☐ Based on the schedule

Output Setting

Mode Setting: ☒ OnOff Switch ☐ Time Switch

Interval: 10 sec

Apply

a. Input Setting:

IP Camera supports input and output. When the input condition is triggered, it can send the video to some specific mail addresses, transmit the video to remote FTP server, trigger the relay, or save video to SAMBA.

b. Output Setting:

"OnOff Switch" means the camera executes the action when triggered.

"Time Switch" means the camera executes the action according to the interval you choose after triggered.

4. Log List

Log List	
System Logs	Logs
Motion Detection Logs	Logs
I/O Logs	Logs
All Logs	Logs

Sort by System Logs, Motion Detection Logs and I/O Logs. In addition, System Logs and I/O Logs won't lose data due to power failure

5. SD card

a. Playback

Please Insert Micro SD card before use it. Make sure pushing Micro SD card into the slot completely.



Click the date listed on this page, and it shows the list of the video. The video format is AVI. Click the video to start Microsoft Media Player to play it. To delete the video, check it, then click "Del".

2006/04/17			Del
Time	Video	Event Type	<input type="checkbox"/>
09:05:22	090522f.avi	Network Dis-connected	<input type="checkbox"/>
09:05:52	090552f.avi	Network Dis-connected	<input type="checkbox"/>
09:06:22	090622f.avi	Network Dis-connected	<input type="checkbox"/>
09:06:52	090652f.avi	Network Dis-connected	<input type="checkbox"/>
09:07:22	090722f.avi	Network Dis-connected	<input type="checkbox"/>
09:07:52	090752f.avi	Network Dis-connected	<input type="checkbox"/>
09:08:22	090822f.avi	Network Dis-connected	<input type="checkbox"/>
09:08:51	090851f.avi	Network Dis-connected	<input type="checkbox"/>
09:09:21	090921f.avi	Network Dis-connected	<input type="checkbox"/>
09:09:51	090951f.avi	Network Dis-connected	<input type="checkbox"/>

1 2 3 4 5

b. SD Management

Choose "The 1st day" means the recoding file will be keep one day.

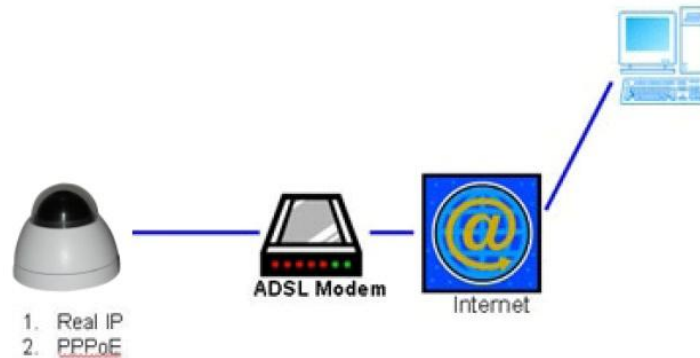
Example: It is five o'clock now. Choose "The 1st day". The files will be kept from five o'clock yesterday to five o'clock today.

Playback	
No SD card	
SD Management	
Auto Deletion:	<div> <div>Off</div> <div>(Keep 1/ 2/ 3/ 4...days)</div> </div> <div> <div>Off</div> <div>The 1st day</div> <div>The 2nd day</div> <div>The 3rd day</div> <div>The 4th day</div> <div>The 5th day</div> <div>The 6th day</div> <div>The 7th day</div> <div>The 8th day</div> <div>The 9th day</div> <div>The 10th day</div> <div>The 15th day</div> <div>The 20th day</div> <div>The 25th day</div> <div>The 30th day</div> </div>
<div>Apply</div>	

Note : The use of the SD card will affect the operation of the IP Camera slightly, such as affecting the frame rate of the video.

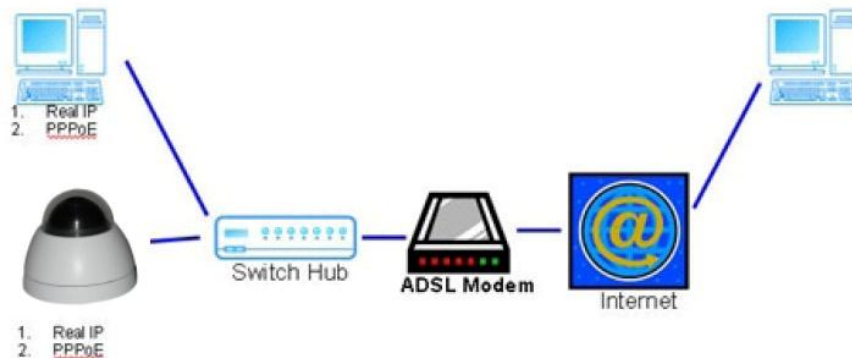
VI. Network Configuration

- Configuration 1:



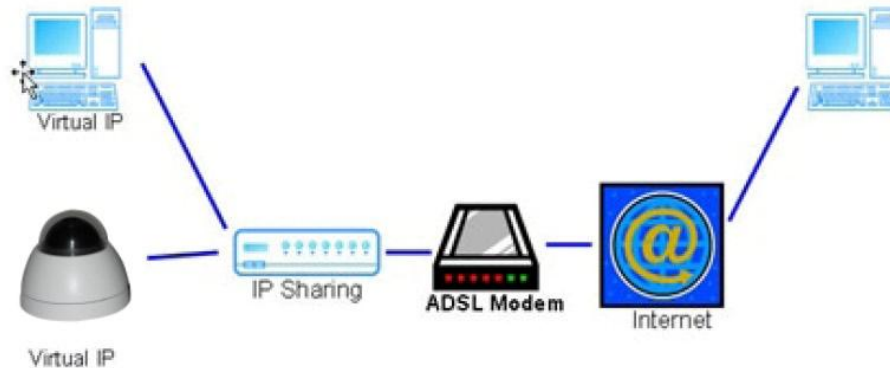
- a. Internet Access: ADSL or Cable Modem
- b. IP address: One real IP or one dynamic IP
- c. Only IP Camera connects to the internet
- d. For fixed real IP, set up the IP into IP Camera. For dynamic IP, start PPPoE.

- Configuration 2:



- a. Internet Access: ADSL or Cable Modem
- b. IP address: More than one real IP or one dynamic IP
- c. IP Camera and PC connect to the internet
- d. Device needed: Switch Hub
- e. For fixed real IP, set up the IP into IP Camera and PC. For dynamic IP, start PPPoE.

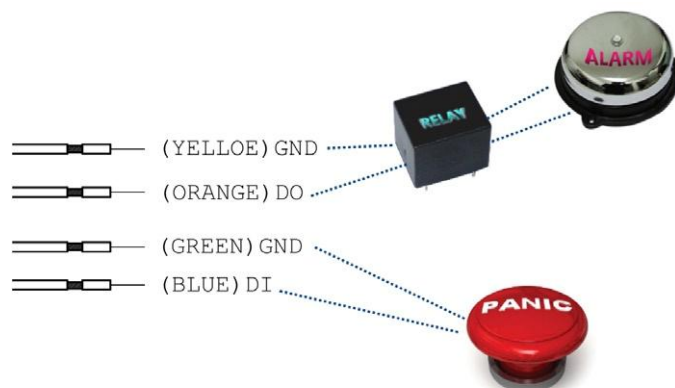
- Configuration 3:



- Internet Access: ADSL or Cable Modem
- IP address: one real IP or one dynamic IP
- IP Camera and PC connect to the internet
- Device needed: IP sharing
- Use virtual IP, set up port forwarding in IP sharing.

VII. I/O Configuration

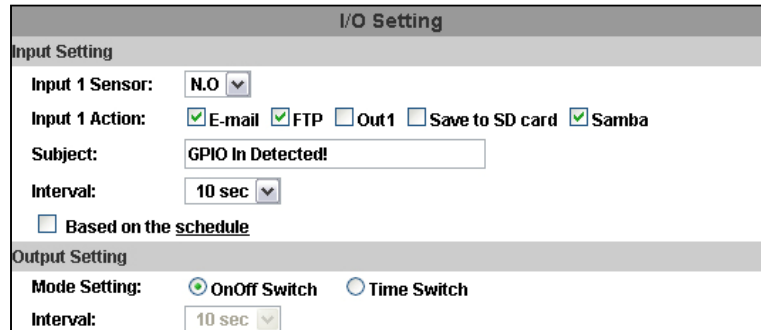
1. I/O Connection



- Please connect the GND & DO pin to the external relay (buzzer) device.
- Please connect the GND & DI pin to the external trigger device.
- I/O PIN definition
 - GND (Ground): Initial state is LOW
 - DO (Digital Output): DC 5V
 - GND (Ground): Initial state is LOW
 - DI (Digital Input): Max. 50mA, DC 5V

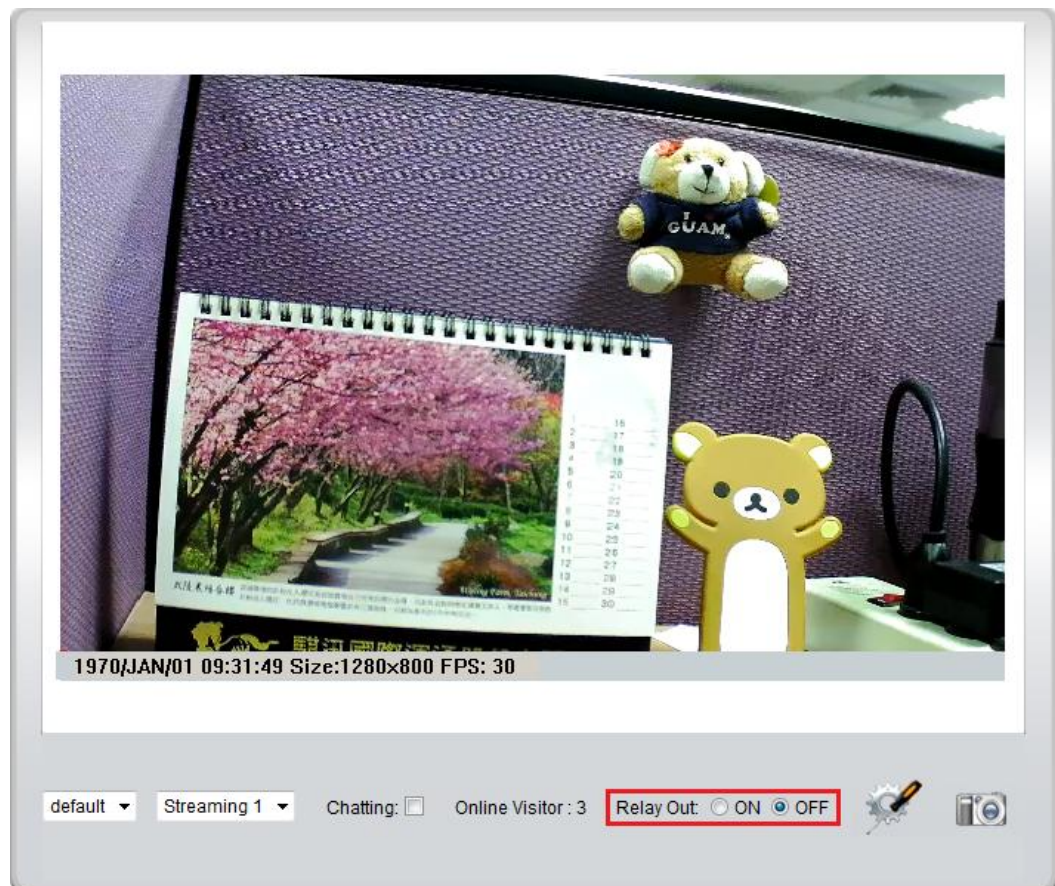
2. I/O Setup

- a. Click I/O Setting from the system setup page via IE, and check “Out1” to enable I/O signal.



The screenshot shows the 'I/O Setting' web interface. It is divided into two main sections: 'Input Setting' and 'Output Setting'. In the 'Input Setting' section, 'Input 1 Sensor' is set to 'N.O'. 'Input 1 Action' has checkboxes for 'E-mail' (checked), 'FTP' (checked), 'Out1' (unchecked), 'Save to SD card' (unchecked), and 'Samba' (checked). The 'Subject' field contains 'GPIO In Detected!'. The 'Interval' is set to '10 sec'. There is an unchecked checkbox for 'Based on the schedule'. The 'Output Setting' section has a 'Mode Setting' with 'OnOff Switch' selected (radio button) and 'Time Switch' (radio button). The 'Interval' is also set to '10 sec'.

- b. Click ON/OFF from the setup main page via IE to control relay out signal.



VIII. Factory Default

If you forget your password, please follow the steps to revert back to default value.

- Remove the power, Internet, and the dome cover. Press and hold the button as the picture below.



- Connect power to the camera, and do not release the button during the system booting.
- It will take around 30 seconds to boot the camera.
- Release the button when camera finishes proceed.
- Re-login the camera using the default IP (<http://192.168.1.200>), and user name (admin), password (admin).

IX. Package contents

- IP Camera Network Camera
- Adaptor
- CD (Including User manual and IP installation tool)

X. Appendix

The following is the Micro SD Card recommended:

Transcend	SDHC class4	16GB
	SDHC class4	32GB
	SD class4	16GB
	SD class4	32GB
	SDHC class6	4GB
	SDHC class6	8GB
	SDHC class6	16GB
	SD class6	4GB
	SD class6	8GB
	SD class6	16GB
	SDHC class10	4GB
	SDHC class10	8GB
	SDHC class10	16GB
SanDisk	SDHC class4	4GB
	SDHC class4	8GB
	SDHC class4	16GB
	SDHC class4	32GB
